

**A NEW SPECIES OF *CRYPTOXILOS*  
(HYMENOPTERA: BRACONIDAE) ATTACKING  
ADULT *LYMANTOR DECIPENS* LECONTE  
(COLEOPTERA: SCOLYTIDAE)<sup>1,2</sup>**

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**ABSTRACT:** *Cryptoxilos lymantori* is described from specimens reared from the galleries of *Lymantor decipens* LeConte. Lack of conspicuous hairs on the eyes distinguish this species from the other Nearctic *Cryptoxilos*, *C. convergens* Muesebeck. The cocoon (illustrated) is spun in the scolytid gallery, and the adult parasitoid escapes through the scolytid entrance hole.

The genus *Cryptoxilos* includes only one described Nearctic species, *C. convergens* Muesebeck, reared by A.D. Hopkins from the scolytid *Phloetribus frontalis* (Olivier) in *Morus* sp. and *Celtis* sp. (Muesebeck, 1936). A second species, described below, was recently reared from another scolytid, *Lymantor decipens* LeConte in *Acer saccharum* Marsh.

The genus *Cryptoxilos* is characterized by small size (2 mm or less), the combination of the absence of a recurrent vein and the presence of an exerted ovipositor, and the eyes of the female strongly convergent below, sparsely to densely hairy (Muesebeck, 1936).

*Cryptoxilos lymantori*, new species

**Holotype Female.** Length (from frons to apex of gaster): 1.40 mm (paratypes 1.45-1.35). Color: dark brown, clypeus, mandible except for apex, yellow, apex of mandible dark brown; front legs yellow except for brown apical tarsomere; middle coxa, trochanters, apex of femur, basal tarsomere yellow, otherwise brown; antenna yellow basally, after first flagellomere gradually becoming dark brown apically; stigma of front wing dark brown. Head: about as wide as thorax; vertex smooth, shining, a few pale hairs laterally; occipital carina complete; frons above antennae smooth, shining, below antennae sparsely finely punctuate; eye in dorsal view protruding laterally beyond temples, strongly converging below, width of face about three-fourths length from clypeus to antennal bases, eye with fine, short, sparse hairs; antennae 13-segmented, first flagellomere not strongly swollen, more slender than scape and pedicel, slightly shorter than third flagellomere, flagellomeres 3-12 three to four times as long as wide. Thorax: mesonotum smooth, shining, except for a roughly triangular patch of coarse contiguous punctures, mesonotum declivous posteriorly with a series of longitudinal ridges; scutellum smooth, convex medially, declivitous with coarse contiguous punctures laterally and posteriorly; metanotum concave with a series of longitudinal ridges, hind margin elevated with an anteriorly directed triangular point; propodeum lightly rugose anteriorly, heavily rugose posteriorly; propleuron rugulose; pronotum smooth except for fine punctures around

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margins; mesopleuron with coarse contiguous punctures below wing base and in a median band across mesopleuron curving down to the anteroventral and posteroventral corners of the mesopleuron, mesopleuron with a smooth, shining, convex mediodorsal area and medioventral area; dorsal metapleural area smooth, ventral metapleural area rugose. Wing venation: Similar to *C. convergens* except that first intercubitus disappears posteriorly (totally lacking in some paratypes, complete in others). Gaster: first gastral segment with a median, paired submedian and lateral, longitudinal carinae, first gastral segment slender, gradually expanded from base to apical fifth, then more abruptly expanded, twice as wide at apex as at spiracles, spiracles distinctly anterior to middle, remaining gastral segments smooth, shining; ovipositor sheaths .3 mm, three-fourths as long as hind tibia.

**Male.** Similar to female except only a few hairs on eyes, invisible except under ideal lighting conditions, eyes only slightly protruding beyond temples, not strongly convergent below. Width of face below antennae 1.2 length from clypeus to antennal bases.

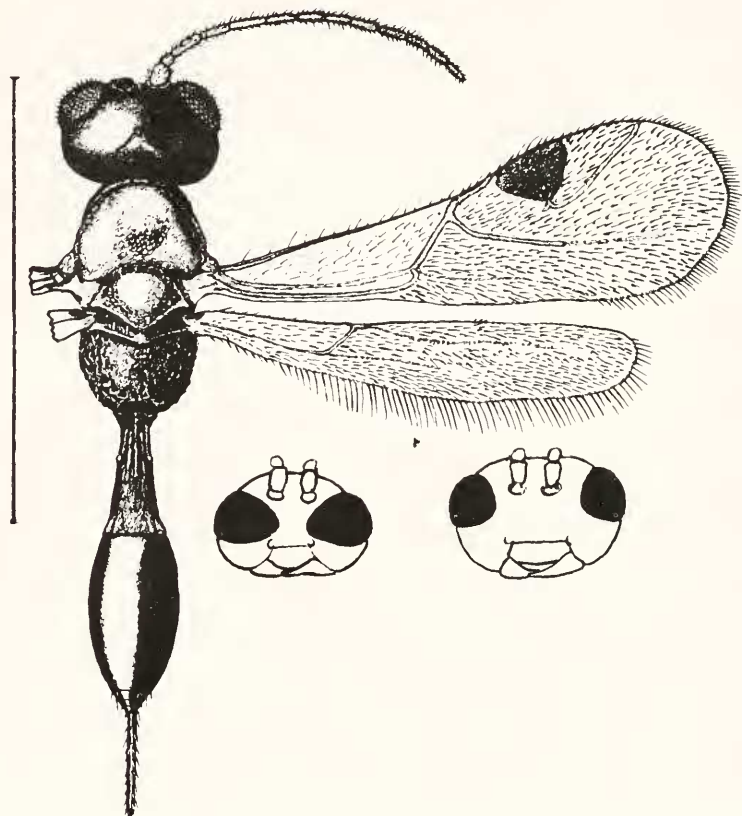


Fig. 1. Dorsal view of *Cryptoxilos lymanthori* n. sp; actual length head and body 1.4 mm; frontal view of head of female (left) and male (right).

**Holotype female.** West Lafayette, Tippecanoe County, Indiana, U.S.A., emerged 2 April 1980 from galleries of *Lymantor decipens* in *Acer saccharum* twigs collected 4 March 1980. The type is deposited in the U.S. National Museum, Washington, D.C.

**Paratypes.** 2 female, 6 male, same data as for holotype.

**Discussion.** This species is easily distinguished from *C. convergens* by short, sparse, inconspicuous hairs on the eyes; even male *C. convergens* have readily visible long hairs on the eyes. It would be premature to speculate on the relationship between the two species, but *C. lymantori* is in general less "atypical" and "extreme" for a euphorine than *C. convergens*; the eyes are less convergent and much less hairy, the antennal segments are longer and more slender, and the vestiture less coarse and less bristling.

#### Biology

Considering the host beetle, it is possible that *C. lymantori* is monophagous. *Lymantor decipens* is a common scolytid occurring in dead branches and small boles of deciduous trees, especially *Acer saccharum*. The galleries always occur in the surface of wood that contains fruiting bodies of an identified ascomycete. Branches are usually attacked when they are attached to a tree, or detached but held above the ground by understory trees and shrubs. This type of host plant material does not harbor other scolytids except for species of *Hypothenemus* and *Trishidias* less than 1 mm in length. *Lymantor decipens* has no congeners in the eastern or midwestern U.S., although there is a second species of *Lymantor* in Alaska.

The seasonal history of *C. lymantori* is not known beyond the fact that adults emerge in spring. The adults obtained in this study emerged on, or during a few days preceding, 2 April 1980, from material that had been brought back into the laboratory on 4 March 1980. The culture of beetles died out during the summer, and there was no second generation of



Fig. 2. Cocoon of *C. lymantori* in gallery of its host; bark, including entrance hole, removed to expose gallery. Circle marks former location of entrance hole.

parasitoids from the second generation of beetles. No occupied cocoons were found in galleries in fresh material collected in late summer, though empty cocoons and dead hosts were found in some old abandoned galleries.

Twelve cocoons were found in the maple twigs from which the type series emerged. In all cases but one, in which the adult wasp had become trapped and died in the beetle gallery, the adults had emerged through the entrance hole of its host. All host scolytids were facing away from the gallery entrance, leaving a clear path for the emergence of the wasp. Between the dead host and the wasp cocoon there was in all cases a vertical partition of silk strands, usually numerous enough to form an opaque white barrier. A second thick partition of silk was located between the gallery entrance and the cocoon. Where there was extra room between the dead host and the gallery entrance, this space contained one or two thin partitions of silk strands, and single strands fastened to the gallery to make a loose webbing. The orientation of the dead host, the partitions, the loose webbing, the transparent shining cocoon itself, are all strikingly similar to those of *Cosmophorus capeki* Loan and Matthews that I have observed in galleries of *Pityophthorus lautus* Eichhoff in *Acer saccharinum* L. As a rule, the *C. lymantori* cocoons were closer to the entrance than those of *C. capeki*, and in four instances *C. lymantori* had actually spun a cover across the entrance hole.

#### LITERATURE CITED

- Meusebeck, C.F.W. 1936. The genera of parasitic wasps of the braconid subfamily Euphorinae, with a review of the Nearctic species. (Hymenoptera: Ichneumonoidea). USDA Misc. Publ. 241: 1-38.